

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



October 23, 2020

TA2020-867

Lise Jordan, Sr. Director
Regulatory Compliance and Quality Assurance
Pacific Gas and Electric Company (PG&E)
77 Beale Street
San Francisco, CA 94105

SUBJECT: Field Inspection Findings – PG&E’s Lakeville Division Transmission Audit

Dear Ms. Jordan:

On behalf of the Electric Safety and Reliability Branch (ESRB) of the California Public Utilities Commission (CPUC), Ivan Garcia and Stephen Lee of ESRB conducted field inspection of PG&E’s transmission facilities and equipment in the Lakeville Division from September 14, 2020 through September 18, 2020.

As a result of the field inspection, ESRB staff identified violations of one or more General Orders. A copy of the audit findings itemizing the violations is enclosed. Please provide a response no later than November 20, 2020, by electronic copy of all corrective actions and preventive measures taken by PG&E to correct the identified violations and prevent the recurrence of such violations. The response should indicate the date of each remedial action and preventive measure completed. For any outstanding items not addressed, please provide the projected completion dates of all corrective actions for the violations outlined in Sections II and III of the enclosed Field Audit Findings.

If you have any questions concerning this audit, please contact Rickey Tse at (415) 355-5581 or rickey.tse@cpuc.ca.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "Banu Acimis".

Banu Acimis, P.E.
Program and Project Supervisor
Electric Safety and Reliability Branch
Safety and Enforcement Division
California Public Utilities Commission

Enclosure: CPUC Field Audit Findings

Cc: Lee Palmer, Director, Safety and Enforcement Division, CPUC

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**PG&E LAKEVILLE DIVISION
ELECTRIC TRANSMISSION FACILITY
FIELD INSPECTION AUDIT REPORT**

I. Field Inspection List

During the field inspection, ESRB staff inspected the following facilities:

| Location | Structure Number | Circuit |
|-----------------|-------------------------|------------------------------------|
| 1 | 1/5 | Fulton-Calistoga, 60 kV |
| 2 | 41/211 | Eagle Rock-Fulton-Silverado 115 kV |
| 3 | 2/12 | Fulton-Ignacio #1, 230 kV |
| 4 | 5/0 | Fulton-Calistoga, 60 kV |
| 5 | 6/142 | Santa Rosa-Corona, 115 kV |
| 6 | 8/46 | Ignacio-San Rafael #1, 115 kV |
| 7 | 7/54 | Ignacio-Alto Sausalito #2, 60 kV |
| 8 | 9/64 | Ignacio-Alto-Sausalito #9, 60 kV |
| 9 | 12/84 | Ignacio-Alto-Sausalito #1, 60 kV |
| 10 | 16/170 | Ignacio-Alto, 60 kV |
| 11 | 16/171 | Ignacio-Alto, 60 kV |
| 12 | 16/172 | Ignacio-Alto, 60 kV |
| 13 | 16/157 | Ignacio-Alto, 60 kV |
| 14 | 16/158 | Ignacio-Alto, 60 kV |
| 15 | 16/159 | Ignacio-Alto, 60 kV |
| 16 | 14/122 | Ignacio-Alto, 60 kV |
| 17 | 14/125 | Ignacio-Alto, 60 kV |
| 18 | 14/124 | Ignacio-Alto, 60 kV |
| 19 | 7/148 | Ignacio-Las Gallinas, 115 kV |
| 20 | 26/6 | Monte Rio-Fort Ross, 60 kV |
| 21 | 26/7 | Monte Rio-Fort Ross, 60 kV |
| 22 | 26/8 | Monte Rio-Fort Ross, 60 kV |
| 23 | 26/1 | Monte Rio-Fort Ross, 60 kV |
| 24 | 25/5 | Monte Rio-Fort Ross, 60 kV |
| 25 | 14/14 | Monte Rio-Fulton, 60 kV |
| 26 | 14/13 | Monte Rio-Fulton, 60 kV |
| 27 | 15/0 | Monte Rio-Fulton, 60 kV |
| 28 | 13/288 | Lakeville #2, 60 kV |
| 29 | 14/302 | Lakeville #2, 60 kV |

| Location | Structure Number | Circuit |
|-----------------|-------------------------|------------------------------|
| 30 | 14/301 | Lakeville #2, 60 kV |
| 31 | 14/300 | Lakeville #2, 60 kV |
| 32 | 16/310 | Fulton-Molino-Cotati, 60 kV |
| 33 | 16/309 | Fulton-Molino-Cotati, 60 kV |
| 34 | 14/303 | Lakeville #2, 60 kV |
| 35 | 9/188 | Lakeville #2, 60 kV |
| 36 | 9/189 | Lakeville #2, 60 kV |
| 37 | 9/190 | Lakeville #2, 60 kV |
| 38 | 8/180 | Lakeville #2, 60 kV |
| 39 | 8/181 | Lakeville #2, 60 kV |
| 40 | 8/182 | Lakeville #2, 60 kV |
| 41 | 8/183 | Lakeville #2, 60 kV |
| 42 | 4/22 | Lakeville-Ignacio #1, 230 kV |
| 43 | 30/150 | Fulton-Ignacio #1, 230 kV |
| 44 | 0/3 | Lakeville-Petaluma C, 60 kV |
| 45 | 0/3 | Lakeville #1, 60 kV |
| 46 | 0/2 | Lakeville-Petaluma C, 60 kV |
| 47 | 0/1 | Lakeville-Petaluma C, 60 kV |
| 48 | 0/3 | Corona-Lakeville, 115 kV |
| 49 | 0/4 | Corona-Lakeville, 115 kV |
| 50 | 0/4 | Lakeville #2, 60 kV |
| 51 | 0/3 | Lakeville #2, 60 kV |
| 52 | 0/2 | Lakeville-Sonoma #1, 115 kV |
| 53 | 0/3 | Lakeville-Sonoma #1, 115 kV |
| 54 | 0/4 | Lakeville-Sonoma #1, 115 kV |
| 55 | 0/4 | Lakeville-Sonoma #2, 115 kV |
| 56 | 26/130 | Lakeville-Sonoma #2, 115 kV |
| 57 | 0/2 | Lakeville-Ignacio #1, 230 kV |
| 58 | 40/184 | Lakeville-Tulucay, 230 kV |
| 59 | 0/5 | Lakeville-Sonoma #1, 115 kV |
| 60 | 0/5 | Lakeville-Sonoma #2, 115 kV |
| 61 | 40/184A | Vaca-Lakeville #1, 230 kV |
| 62 | 40/184B | Lakeville-Tulucay, 230 kV |
| 63 | 25/129BB | Fulton-Ignacio #1, 230 kV |

| Location | Structure Number | Circuit |
|----------|------------------|------------------------------|
| 64 | 25/129B | Lakeville-Ignacio #2, 230 kV |
| 65 | 25/129AA | Fulton-Ignacio #1, 230 kV |
| 66 | 25/129A | Lakeville-Ignacio #2, 230 kV |
| 67 | 0/5 | Lakeville #1, 60 kV |
| 68 | 0/5 | Lakeville-Petaluma C, 60 kV |
| 69 | 0/4 | Lakeville #1, 60 kV |
| 70 | 0/4 | Lakeville-Petaluma C, 60 kV |

II. Field Inspection Violations

ESRB staff observed the following violations during the field inspection:

1. GO 95, Rule 31.1, Design, Construction and Maintenance states in part:

“Electrical supply and communications systems shall be designed, constructed, and maintained for their intended use, regard being given to the conditions under which they are to be operated, to enable the furnishing of safe, proper, and adequate service.

For all particulars not specified in these rules, design, construction, and maintenance should be done in accordance with accepted good practice for the given local conditions known at the time by those responsible for the design, construction, or maintenance of communication or supply lines and equipment.”

The tower 9/64 on the Ignacio-Alto-Sausalito #9, 60 kV has excessive corrosion with daylight visible on a steel member at the base of the tower. During the field inspection, PG&E created the Priority E LC Notification #119766123 to replace all damaged members by September 15, 2021.

2. GO 95, Rule 56.9, Guy Marker (Guy Guard) states in part:

“A substantial marker of suitable material, including but not limited to metal or plastic, not less than 8 feet in length, shall be securely attached to all anchor guys.”

The down guy marker on pole 26/6 on the Monte Rio-Fort Ross, 60 kV is melted and missing.

3. GO 95, Rule 51.6, Marking and Guarding, High Voltage Marking states in part:

“Poles which support line conductors of more than 750 volts shall be marked with high voltage signs. This marking shall consist of a single sign

showing the words “HIGH VOLTAGE”, or pair of signs showing the words “HIGH” and “VOLTAGE”, not more than six (6) inches in height with letters not less than 3 inches in height. Such signs shall be of weather and corrosion-resisting material, solid or with letters cut out therefrom and clearly legible.”

The steel pole 40/184B, on the Lakeville-Tulucay, 230 kV is missing a high voltage sign. During the field inspection, PG&E created the Priority FLC Notification #119783859 to install a new high voltage sign by September 18, 2022.

III. Field Inspection – Documented Violations List

ESRB staff observed the following violations during the field inspection. Upon discovery of the following violations, ESRB learned that PG&E had already documented the violations in its last inspection and had already created LC Notifications to correct the issues. As of September 18, 2020, these violations are still pending corrective action.

1. GO 95, Rule 31.1, Design, Construction and Maintenance states in part:

“Electrical supply and communications systems shall be designed, constructed, and maintained for their intended use, regard being given to the conditions under which they are to be operated, to enable the furnishing of safe, proper, and adequate service.

For all particulars not specified in these rules, design, construction, and maintenance should be done in accordance with accepted good practice for the given local conditions known at the time by those responsible for the design, construction, or maintenance of communication or supply lines and equipment.”

PG&E’s Electric Transmission Preventive Maintenance Manual (ETPM), Revision 4, effective November 20, 2018, Table 5 below defines the priority codes and associated time frames for the response/repair action of its LC Notifications.

Table 5. Priority Codes

| Priority Code | Priority Description |
|---------------|--|
| A | The condition is urgent and requires immediate response and continued action until the condition is repaired or no longer presents a potential hazard. SAP due date will be 30 days to allow time for post-construction processes and notification close-out. |
| B | Corrective action is required within 3 months from the date the condition is identified. The condition must be reported to the transmission line supervisor as soon as practical. |
| E | Corrective action is required within 12 months from the date the condition is identified. |
| F | Corrective action is recommended within 24 months from the date the condition is identified, (due beyond 12 months, not to exceed 24 months). Requires Director approval. |

- 1.1 The tower 7/54 on the Ignacio-Alto-Sausalito #1, 60 kV has a damaged structure number. PG&E's Priority FLC Notification #119375099 states, "*CIRT reviewed per PG&E ETPM criteria and electric overhead construction manual and agrees to install appropriate structure marking (e.g. high voltage signs, danger signs, structure number, visibility strip, etc.) As required per drawing 022168.*" The required end date for this LC Notification is July 13, 2022.
- 1.2 The tower 7/54 on the Ignacio-Alto-Sausalito #1, 60 kV needs to have the foundation to be resealed. PG&E created the Priority FLC Notification #119375242 on July 13, 2020, which states, "*CIRT reviewed per PG&E ETPM and transmission line standards and agrees to apply mastic to foundation and stubs.*" The required end date for this LC Notification is July 13, 2022.
- 1.3 The tower 7/54 on the Ignacio-Alto-Sausalito #1, 60 kV has vegetation infringing on the base of the tower. PG&E's Priority E LC Notification #118200282 states, "*CIRT reviewed and agrees to remove vegetation.*" The required end date for this LC Notification is November 24, 2020.
- 1.4 The pole 14/124 on the Ignacio-Alto, 60 kV has dirty insulators. PG&E's Priority E LC Notification #114883821 states, "*structures 14/124 and 14/125 just behind Trader Joes are making a lot of noise. We need to wash the insulators or replace.*" The required end date for this LC Notification was August 13, 2019. ESRB notes that this LC Notification is past its required end date; therefore, it is a violation.
- 1.5 The pole 14/124 on the Ignacio-Alto, 60 kV has a damaged brace. PG&E's Priority E LC Notification #19325242 states, "*CIRT reviewed and agrees to re-install brace as required.*" The required end date for this LC Notification is July 6, 2021.
- 1.6 The pole 26/6 on the Monte Rio- Fort Ross, 60 kV has the incorrect pole number installed. PG&E's Priority F LC Notification #117439758 states, "*CIRT reviewed per PG&E ETPM criteria and recommends installing structure number.*" The required end date for this LC Notification is June 10, 2021.
- 1.7 The pole 14/14 on the Monte Rio- Fort Ross, 60 kV is missing the structure number. PG&E's Priority FLC Notification #119353747 states, "*CIRT reviewed per PG&E ETPM criteria and electric overhead construction manual and agrees to install appropriate structure marking (e.g. high voltage signs, danger signs, structure number, visibility strips, etc.) As required per drawing 022168.*" The required end date for this LC Notification is July 10, 2022.
- 1.8 The pole 8/180 on the Lakeville #2, 60 kV has a woodpecker nest at the pole top. PG&E created the Priority E LC Notification #116959411 on April 4, 2019,

which states, “*Large active woodpecker nest at pole top just below through bolt for cross arm, not enough room to cut pole top and reframe to T1, need to replace pole.*” The required end date for this LC Notification was April 4, 2020. PG&E reassessed the work order on May 27, 2020 and expects to complete the work by May 31, 2021. ESRB notes that this LC Notification is past its original required end date and the LC Notification was also reassessed past its original required end date; therefore, it is a violation.

- 1.9 The pole 4/22 on the Lakeville-Ignacio #1, 230 kV is missing a bolt. PG&E’s Priority E LC Notification #119461536 states, “*CIRT reviewed and agrees to replace all loose/missing/corroded hardware/bolts.*” The required end date for this LC Notification is July 15, 2021.
- 1.10 The steel pole 0/2 on the Lakeville – Sonoma #1, 115 kV is missing the structure number. PG&E’s Priority FLC Notification #119339475 states, “*CIRT reviewed per PG&E ETPM criteria and electric overhead construction manual and agrees to install appropriate structure marking (e.g. high voltage signs, danger signs, structure number, visibility strips, etc.) As required per drawing 022168.*” The required end date for this LC Notification is July 9, 2022.
- 1.11 The steel pole 0/3 on the Lakeville – Sonoma 31, 115 kV is missing the structure number. PG&E’s Priority FLC Notification #119339036 states, “*CIRT reviewed per PG&E ETPM criteria and electric overhead construction manual and agrees to install appropriate structure marking (e.g. high voltage signs, danger signs, structure number, visibility strips, etc.) As required per drawing 022168.*” The required end date for this LC Notification is July 9, 2022.
- 1.12 The steel pole 0/4 on the Lakeville – Sonoma #2, 115 kV is missing a structure number. PG&E’s LC Notification #114338975 states, “*CIRT reviewed per PG&E ETPM criteria and electric overhead construction manual and agrees to install appropriate structure marking (e.g. high voltage signs, structure number, visibility strips, etc.) As required per drawing 022168.*”
- 1.13 The steel pole 0/4 on the Lakeville – Sonoma #2, 115 kV is missing a structure number. PG&E’s Priority FLC Notification #119662571 states, “*CIRT reviewed per PG&E ETPM criteria and electric overhead construction manual and agrees to install appropriate structure marking (e.g. high voltage signs, structure number, visibility strips, etc.) As required per drawing 022168.*” The required end date for this LC Notification is August 19, 2022.
- 1.14 The tower 0/2 on the Lakeville – Ignacio #1, 230 kV has a broken insulator on a string of bells. PG&E created the Priority E LC Notification #115018482 on September 26, 2018, which states, “*Broken Sediver D.E. Insulator, Top phase on*

bundled conductor facing Ignacio Sub, inside string, 24 bell string.” The required end date for this LC Notification was September 26, 2019. PG&E reassessed the work order on July 7, 2020 and expects to complete the work by May 31, 2021. ESRB notes that this LC Notification is past its original required end date and the LC Notification was also reassessed past its original required end date; therefore, it is a violation.

- 1.15 The steel tower 0/5 on the Lakeville – Sonoma #1, 115 kV is missing the structure number. Per PG&E’s Priority F LC Notification #119338723 states, “*CIRT reviewed per PG&E ETPM criteria and electric overhead construction manual and agrees to install appropriate structure marking (e.g. high voltage signs, danger signs, structure number, visibility strips, etc.) As required per drawing 022168.*” The required end date for this LC Notification is July 9, 2022.
- 1.16 The steel tower 0/5 on the Lakeville – Sonoma #2, 115 kV is missing the structure number. PG&E’s Priority F LC Notification #119644820 states, “*CIRT reviewed per PG&E ETPM criteria and electric overhead construction manual and agrees to install appropriate structure marking.*” The required end date for this LC Notification is August 19, 2022.
- 1.17 The pole 0/5 on the Lakeville- Petaluma C, 60 kV has a split crossarm. PG&E created the Priority E LC Notification #116883252 on April 1, 2019, which states, “*Cross arm on TPA rotting, needs to replace with N/C TI kit.*” The required end date for this LC Notification was November 1, 2019. PG&E reassessed the work order on May 22, 2020 and noted “*Arm OK until 5/31/21, truck access in dry months only, prefer completion by 10/31/20 if possible.*” ESRB notes that this LC Notification is past its original required end date and the LC Notification was also reassessed past its original required end date; therefore, it is a violation.

2. GO 95, Rule 51.6, Marking and Guarding, High Voltage Marking states in part:

“Poles which support line conductors of more than 750 volts shall be marked with high voltage signs. This marking shall consist of a single sign showing the words “HIGH VOLTAGE”, or pair of signs showing the words “HIGH” and “VOLTAGE”, not more than six (6) inches in height with letters not less than 3 inches in height. Such signs shall be of weather and corrosion-resisting material, solid or with letters cut out therefrom and clearly legible.”

- 2.1 The tower 9/64 on the Ignacio-Alto-Sausalito #1, 60 kV is missing a high voltage sign. PG&E’s Priority F LC Notification #118200285 states, “*CIRT reviewed per electric overhead construction manual and agrees to install danger sign.*” The required end date for this LC Notification is November 24, 2021.

2.2 The steel pole 40/184A on the Vaca-Lakeville #1, 230 kV is missing a high voltage sign. PG&E's Priority F LC Notification #119662523 states, "*CIRT reviewed per PG&E ETPM criteria and electric overhead construction manual and agrees to install appropriate structure marking (e.g. high voltage signs, danger signs, structure number, visibility strips, etc.) As required per drawing 022168.*" The required end date for this LC Notification is August 24, 2022.

3. GO 95, Rule 56.9, Guy Marker (Guy Guard) states in part:

"A substantial marker of suitable material, including but not limited to metal or plastic, not less than 8 feet in length, shall be securely attached to all anchor guys."

The pole 14/125 on the Ignacio-Alto-Sausalito #1, 60 kV is missing a down guy marker. PG&E's Priority E LC Notification #119325243 states, "*on 7/6/2020, guy wire wood – repair – due to missing fiberglass rods on all phases fiberglass rods missing and slack guys.*" The required end date for this LC Notification is July 6, 2021.

4. GO 95, Rule 44.3, Replacement states in part:

"Lines or parts thereof shall be replaced or reinforced before safety factors have been reduced (due to factors such as deterioration and/or installation of additional facilities) in Grades 'A' and 'B' construction to less than two-thirds of the safety factors specified in Rule 44.1 and in Grade 'C' construction to less than one-half of the safety factors specified in Rule 44.1."

The pole 7/148 on the Ignacio-Las Gallinas, 115 kV is an overloaded joint pole. PG&E created the Priority E LC Notification #114792562 on July 17, 2018, which states, "*need to replace overloaded joint pole per [...] 7/17/18.*" The required end date for this LC Notification was July 17, 2020. PG&E reassessed the work order on May 22, 2020 and stated that the pole "Looks to be replaced soon.... Safe for now." PG&E expects to complete the work by May 31, 2021. ESRB notes that this LC Notification is past its original required end date.

In PG&E's response for this violation, please provide PG&E's justification for reassessing the pole replacement to a later completion date. Please also provide all evidence that supports PG&E's reasoning for assigning the pole replacement to a Priority E notification, rather than to a higher priority level.